

DISCHARGE PERMIT
MOLYCORP QUESTA MINE, DP-1055

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this Discharge Permit (DP-1055) to Molycorp, Inc. (Molycorp) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§ 74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20 NMAC Chapter 6, Part 2 (Nov. 15, 1996).

NMED's purpose in writing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control discharges of water contaminants from the Molycorp Questa Mine into ground and surface water, so as to protect ground and surface water for actual and potential future use as domestic and agricultural water supply and other uses; and to abate pollution of ground and surface water.

Activities Which Produce the Discharge: Molycorp has conducted molybdenum mining and concentrating operations at the Molycorp Questa Mine since 1918, when Molycorp commenced small-scale mining including underground mining. Molycorp conducted open pit mining operations from 1965 to 1983. Beginning in 1983, and continuing to the present time, Molycorp has conducted underground mining at the Molycorp Questa Mine site. Waste rock from the pit excavation, as well as from the underground mine, has been deposited in various locations, including drainages, adjacent to the open pit. Molycorp has placed the Questa Mine on standby on several instances in reaction to the depressed price of molybdenum. Beginning in 1992 when Molycorp placed the mine on standby, pumping of ground water from the underground workings was halted, and the water filled the underground workings to an elevation of 7,600 feet. Molycorp resumed pumping of ground water from the underground workings in August of 1994. Molycorp's underground mining activities have produced a subsidence zone in Goathill Gulch. Molycorp's concentrating operations produced tailings, some of which were deposited in an on-site surface impoundment known as the historical tailings impoundment.

The Molycorp Questa Mine waste rock, open pit, and subsidence zone all contain pyrite which, when oxidized, generates sulfuric acid. This acid then leaches contaminants from the rock, including heavy metals and sulfate, forming what is known as acid rock drainage or acid rock leachate. This leachate may move directly or indirectly into ground water.

Location of the Discharge: The Molycorp Questa Mine is located approximately 5 miles east of the town of Questa in Sections 1, 2, 3, 4, 11, 12 (projected) T28N, R13E, Sections 25, 26, 33, 34, 35, 36 (projected) T29N, R13E, Section 6 (projected) T28N, R14E, and Section 31, T29N, R14E, Taos County. The Questa Mine includes approximately 328 million tons of waste rock deposited near and adjacent to an open pit. Waste rock dumps are located in Capulin Canyon, Goathill Gulch, Spring Gulch, Blind Gulch, Old Sulphur Gulch, adjacent to the Red River in the Sugar Shack South and Middle waste rock dumps and near the surface facilities of the underground mine in the Sugar Shack West waste rock dump. The historical tailings impoundment is located in the mill site area. The subsidence

zone is located above the underground mine in Goathill Gulch. A surface-flow leachate collection system is located in Capulin Canyon. Storm water impoundments are located in Capulin Canyon, Goathill Gulch, in the area of the surface facilities for the underground mine, at the toe of the Sugar Shack South, Middle, and Old Sulphur Gulch waste rock dumps, at the mill site, in the open pit, and possibly in other locations. The location of these features is depicted in **Figure 1**.

Quantity, Quality and Flow Characteristics of the Discharge: Leachate from the Capulin Canyon, Sugar Shack South and Sugar Shack West waste rock piles, and from the open pit, and storm water runoff from the facility is discharged so it moves directly into ground water. Leachate from the Goathill Gulch, Spring Gulch, Blind Gulch, Old Sulphur Gulch and Middle waste rock dumps, and from the historical tailings impoundment, is or may be discharged so that it moves directly or indirectly into ground water. At least some of the leachate exceeds health-based water quality standards under the WQCC Regulations at 20 NMAC 6.2.3103.A for the constituents cadmium, chromium, fluoride, and lead; at least some of the leachate exceeds other domestic water supply standards under 20 NMAC 6.2.3103.B for the constituents copper, iron, manganese, sulfate, total dissolved solids, zinc, and is below the acceptable pH range; and at least some of the leachate exceeds water standards for irrigation use under 20 NMAC 6.2.3103.C for the constituents aluminum, cobalt, and nickel. Additionally, at least some of the leachate exceeds the maximum contaminant level for beryllium, a primary drinking water standard set by the U.S. Environmental Protection Agency under the federal Safe Drinking Water Act.

The Capulin Canyon waste rock dump currently discharges between 25 and 75 gallons per minute of leachate continuously. The Sugar Shack South and Sugar Shack West waste rock dumps may discharge leachate in a quantity sufficient to cause ground water to exceed standards for the contaminants listed above. The amount of leachate generated by the Goathill Gulch, Spring Gulch, Blind Gulch, Old Sulphur Gulch and Middle waste rock dumps, the historical tailings impoundment, and storm water impoundments will be determined during studies to be conducted under this Permit. The open pit collects precipitation and storm water runoff and directs it to ground water in the underground mine.

Characteristics of Ground Water: Ground water depth at the site varies from approximately 15 to greater than 200 feet. Ground water total dissolved solids concentration varies from approximately 390 milligrams per liter to greater than 1000 milligrams per liter. Ground water background concentrations may exceed water quality standards under the WQCC Regulations for some constituents in some areas of the mine, although NMED has not yet made any background determinations.

II. DEFINITIONS

Whenever any terms defined in the WQA or the WQCC Regulations are used in this Discharge Permit, including the Attachments hereto and any documents incorporated herein by reference, those definitions

shall apply. In addition, whenever the terms listed below are used in this Discharge Permit, including the Attachments hereto and any documents incorporated herein by reference, the following definitions shall apply:

“Discharge” means any spilling, leaking, pumping, pouring, emitting, emptying, or dumping into water or in a location and manner where there is a reasonable probability that the discharged substance will directly or indirectly reach surface or subsurface water.

“Discharge Permit” means, unless otherwise specified, this Discharge Permit DP-1055 including the Attachments hereto and any documents incorporated herein by reference.

“Molycorp” means Molycorp, Inc., a corporation organized under the laws of the State of Delaware and doing business in New Mexico that is a wholly-owned subsidiary of Unocal, and any successors or assigns.

“Molycorp Questa Mine” means the molybdenum mine and milling facility owned and operated by Molycorp located near the Village of Questa in Taos County, New Mexico and all surrounding property over which Molycorp has an ownership interest or a leasehold interest.

“NMED” means the New Mexico Environment Department, a department of the executive branch and a constituent agency of the WQCC, and any successor agencies.

“WQA” means the New Mexico Water Quality Act, NMSA 1978 §§ 74-6-1 through 74-6-17, and any amendments thereto.

“WQCC” means the New Mexico Water Quality Control Commission.

“WQCC Regulations” means 20 NMAC, Chapter 6, Parts 1 and 2, and any amendments thereto.

“Water contaminant” means any substance that could alter if discharged or spilled the physical, chemical, biological, or radiological qualities of water, within the meaning of 20 NMAC 6.2.1101.XX.

“Water contaminant” does not mean source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954.

III. FINDINGS

In issuing this discharge permit, NMED makes the following findings:

1. Molycorp is discharging leachate from the waste rock piles, the open pit, the historical tailings impoundment, and the storm water impoundments at its Questa Mine so that such leachate may move directly or indirectly into ground water within the meaning of 20 NMAC 6.2.3104.
2. Molycorp is discharging leachate from its Questa Mine so that such leachate may move into ground water of the State of New Mexico which has an existing concentration of 10,000 milligrams per liter or less of total dissolved solids within the meaning of 20 NMAC 6.2.3101.A.
3. Molycorp's discharge of leachate from its Questa Mine may be causing water quality standards to be exceeded in ground water within the meaning of 20 NMAC 6.2.3103.
4. Molycorp's discharge of leachate from its Questa Mine may result in a hazard to public health within the meaning of 20 NMAC 6.2.3105.H and 6.2.1101.W.

NMED may modify these findings based on new data or other information, including the background study to be conducted pursuant to Condition 24 below.

IV. CONDITIONS

Molycorp is permitted to discharge water contaminants subject to the following conditions.

MONITORING, REPORTING, AND OTHER REQUIREMENTS

1. Molycorp shall comply with the following monitoring, reporting, and other requirements listed below in accordance with the WQCC Regulations at 20 NMAC 6.2.3107. Molycorp may request a reduction in monitoring frequency, locations, and analytical parameters for NMED approval after two years of quarterly monitoring, or in the event that sampling stations are destroyed or become inaccessible.

Sampling and Field Measurements

2. Ground Water Monitoring Wells. Molycorp shall monitor ground water quality in all existing monitoring wells, and all monitoring wells installed after the issuance of this Discharge Permit. Samples shall be collected from each well once per quarter and analyzed for the water parameters listed in Condition 10 below. Molycorp shall record the depth to the water table to the nearest hundredth of a foot (0.01 ft) in all existing monitoring wells, and all monitoring wells installed after the issuance of this Discharge Permit, quarterly. Analytical results and depth to ground water measurements shall be reported as required in Condition 13 below. Existing monitoring wells designations are: MMW-2, MMW-3, MMW-7, MMW-8A, MMW-8B, MMW-10A, MMW-

10B, MMW-10C, MMW-11, MMW-11A, MMW-13, MMW-17A, MMW-17B, MMW-18A, MMW-18B, MMW-19A, MMW-19B, MMW-21, MMW-22, MMW-23A, MMW-23B, MMW-24, MMW-25A, MMW-25B, MMW-26A, MMW-27A, MMW-P-1, MMW-P-2, MMW-P-3, MMW-P-4A, MMW-P-4B, MMW-P-5A, MMW-P-5B, and MMW-P-5C. Monitoring well locations are depicted on Figure 1 of the report *1999 Hydrogeologic Investigation, Questa Mine, Taos County, New Mexico* (Souder Miller & Associates, March 17, 2000).

3. Ground Water Supply Wells. Molycorp shall monitor ground water quality in the domestic supply well located on property at mile marker 5 on the North side of New Mexico State Highway 38 and any other private supply well within reasonable proximity to the Molycorp Questa Mine when an analysis is requested by the well owner or by NMED. Samples shall be collected once per quarter, dependent on granting of access by the well owner, and analyzed for the water parameters listed in Condition 10 below. Analytical results shall be reported as required in Condition 13 below.
4. River. Molycorp shall monitor surface water quality in the Red River by collecting samples at 9 sampling locations along the Red River from above the Town of Red River to below the Fish Hatchery. Samples shall be collected once per quarter and analyzed for the water parameters listed in Condition 11 below. At the time of sample collection, surface water flow rates shall be measured in cubic feet per second (cfs) at the 9 sampling locations. Analytical results and surface water flow rates shall be reported as required in Condition 13 below. The 9 surface water sampling locations, stations 7, 10, 10a, 11, 11c, 12, 13, 14, and 16, are shown in Figure 1.
5. Seeps. Molycorp shall monitor water quality in all discrete seeps known to Molycorp at the Molycorp Questa Mine and all seeps flowing into the Red River from the Molycorp Questa Mine. Samples shall be collected from each seep once per quarter and shall be analyzed for the water parameters listed in Condition 10 below. Active seep locations shall be recorded on a map and seep flow rates shall be measured if practicable, or estimated, in gallons per minute (gpm) from each flowing seep once per month. The seep location map, analytical results and seep flow rates shall be reported as required in Condition 13 below.
6. Storm Water. Molycorp shall monitor water quality of storm water runoff from the waste rock piles by collecting at least two samples of runoff from each waste rock pile during storms representing the range of flow and snow melt conditions. Additionally, Molycorp shall monitor water quality in all storm water impounded for more than one day by collecting at least one sample from each such impoundment. Samples shall be analyzed for the water parameters listed in Condition 10 below. The volume of runoff shall be qualitatively described, and the amount of water in each impoundment shall be estimated at the time of sample collection. Analytical results and volume measurements shall be reported as required in Condition 13 below.

7. Underground Mine Water. Molycorp shall monitor the quality of the water pumped from the underground mine. One sample shall be collected once per quarter from the underground reservoir at the decline and analyzed for the water parameters listed in Condition 10 below. The volume of water pumped from the underground mine shall be continuously measured using a totalizing flow meter and monthly meter readings shall be recorded. Analytical results and monthly meter readings shall be reported as required in Condition 13 below.
8. Boreholes. Molycorp shall monitor the existing boreholes in the waste rock piles, and all boreholes installed in the waste rock piles after the issuance of this Discharge Permit. Borehole monitoring shall be conducted a minimum of once per month or more often as proposed by Molycorp and approved by NMED, to determine variability due to diurnal effects, low and high temperature and barometric pressure events, precipitation, snowmelt, and seasonal variations. Each borehole will be sampled from ports located at multiple depths within the borehole and as described in the draft *Questa Waste Rock Investigation - Waste Pile Instrumentation As-Built Report* (SRK, September 1999) for temperature, oxygen, carbon dioxide, relative humidity, and barometric pressure. During each sampling event, Molycorp shall determine whether water is present in the borehole and, if present, the depth to water shall be measured and recorded. A water sample shall then be collected and analyzed for the water parameters listed in Condition 10 below. During each sampling event, snow depth at each borehole collar shall be measured and meteorological data shall be collected as required by Condition 9 below. Analytical results and field measurements shall be reported as required in Condition 13 below. Locations of existing boreholes are shown in Figure 3.
9. Meteorological Data. Molycorp shall monitor meteorological conditions through installation of primary and secondary meteorological stations as described in the draft *Work Plan for Waste Rock Water Balance Study, Questa Mine Site, New Mexico* (Robertson GeoConsultants Inc., February 2000). Measurements shall be recorded on data acquisition stations for precipitation, wind direction, wind speed, net radiation, air temperature, and relative humidity. Measurements shall also be taken contemporaneous with borehole measurements as required by Condition 8 above. Field measurements shall be reported as required in Condition 13 below.

Analysis

10. Leachate, Stormwater, and Ground Water. Molycorp shall analyze samples of leachate, stormwater and ground water for the parameters listed below. Samples of stormwater and ground water from supply wells shall be analyzed for both total and dissolved concentrations of the analytes listed below. Samples of leachate and samples of ground water from monitoring wells shall be analyzed for dissolved concentrations of the analytes listed below.

- a. Field parameters (analysis to be performed in the field): temperature, pH, electrical conductivity, dissolved oxygen (DO), and reduction-oxidation potential.
- b. General chemistry parameters: calcium, magnesium, sodium, potassium, carbonate, bicarbonate, sulfate, chloride, nitrate, fluoride, and total dissolved solids.
- c. Metals parameters: aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury (total concentration only), molybdenum, nickel, selenium, silver, and zinc.
- d. Other parameters: any other parameters as identified during ongoing investigations of potential source areas and as required by NMED.

11. Surface Water. Molycorp shall analyze samples of surface water for the parameters listed below. Samples of surface water shall be analyzed for both total and dissolved concentrations of the analytes listed below.

- a. Field parameters (analysis to be performed in the field): temperature, pH, and electrical conductivity.
- b. General chemistry parameters: bio-chemical oxygen demand (BOD), chemical oxygen demand (COD), calcium, magnesium, sodium, potassium, carbonate, bicarbonate, sulfate, chloride, nitrate, fluoride, and total dissolved solids.
- c. Metals parameters: aluminum, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury (total concentration only), molybdenum, nickel, selenium, silver, and zinc.
- d. Other parameters: any other parameters as identified during ongoing investigations of potential source areas and as required by NMED.

Methodology

12. Unless otherwise approved in writing by NMED, Molycorp shall conduct sampling and analysis in accordance with the most recent edition of following documents:

- a. American Public Health Association, *Standard Methods for the Examination of Water and Wastewater*.

- b. U.S. Environmental Protection Agency, *Methods for Chemical Analysis of Water and Waste*.
- c. U.S. Geological Survey, *Techniques for Water Resource Investigations of the U.S. Geological Survey*.
- d. American Society for Testing and Materials, *Annual Book of ASTM Standards*, Part 31. Water.
- e. U.S. Geological Survey, et al., *National Handbook of Recommended Methods for Water Data Acquisition*.
- f. Surface water monitoring must also be conducted according to test procedures approved under Title 40 Code of Federal Regulations Part 136.

Reporting

- 13. Molycorp shall submit quarterly monitoring reports, containing information collected the preceding calendar quarter, on or before January 31, April 30, July 31 and October 31 of each year. Monitoring reports shall include results of all monitoring tasks described in Conditions 2 through 9 above and shall include copies of all raw data.
- 14. Molycorp shall prepare potentiometric surface maps for the alluvial and bedrock aquifers proximal to the Red River quarterly, and for all aquifers underlying the Molycorp Questa Mine annually, and shall submit the maps with the monitoring reports described in Condition 13 above. Molycorp may request a reduction in frequency for NMED approval after two years of quarterly preparation of potentiometric surface maps.
- 15. Molycorp shall include in the quarterly monitoring reports described in Condition 13 above a description of any work completed pursuant to this Discharge Permit during the preceding quarter. This requirement includes but is not limited to: a) completion of monitoring wells or boreholes including lithologic and construction logs and the northing, easting and top-of-casing elevation for each well as surveyed to the existing mine grid to the nearest hundredth of a foot (0.01 ft); b) emplacement of liners in impoundments including as-built construction diagrams; and c) maintenance, repair, and replacement of equipment used in the discharge system.

OPERATIONAL PLAN

16. Molycorp shall implement the following operational plan, including investigations, in accordance with the WQCC Regulations at 20 NMAC § 6.2.3106.C and 3107 to ensure compliance with 20 NMAC Chapter 6, Parts 1 and 2.

Investigation

17. Molycorp shall conduct an investigation of the Molycorp Questa Mine to collect additional information necessary to ensure that operations and closure will meet the requirements of 20 NMAC § 6.2.1101.TT, 3103, and 3107.A.11 and 20 NMAC § 6.1. The investigation shall be conducted in accordance with *draft NMED Ground Water Pollution Prevention Section Discharge Plan Closure Guidance for Mining Sites* (May 30, 1996) attached as **Attachment 1**. Results of the investigation will be included in the analysis of closure alternatives required by Condition 32 and the closure plan required by Condition 31. This investigation, which was begun prior to the issuance of this Discharge Permit, shall include without limitation the following components, each of which is subject to NMED review and oversight.
 - a. Waste rock characterization with respect to, at a minimum, physical, geochemical and in-situ characteristics of waste rock dumps as described in Condition 8.
 - b. Geophysical surveys (seismic and electrical resistivity) to define the alluvium-bedrock interface and other geologic properties such as fracture orientations.
 - c. Water balance for waste rock dumps to evaluate impacts of saturated or unsaturated flow of leachate on underlying ground water.
 - d. Comprehensive hydrologic balance of the Red River watershed.
 - e. Vegetation test plots to investigate cover/revegetation alternatives.
 - f. Surface erosion and stability analysis of waste rock dumps.
 - g. Borrow materials and rooting zone investigation to evaluate cover/revegetation alternatives.
 - h. Open pit and subsidence area investigation to determine current and future physical and geochemical conditions and evaluate closure alternatives.
 - i. Projected water quality impacts due to re-flooding of underground mine workings.

18. Molycorp shall submit a site-wide comprehensive hydrologic report to NMED for review. The report shall be submitted within one hundred and twenty (120) days after the date of the issuance of this Discharge Permit. The report shall include: a) a description of all historical and current potential sources of ground water contamination on or resulting from the Molycorp Questa Mine, including but not limited to the waste rock dumps, subsidence zones, open pit, mill site, historic tailings impoundment at the mill site, pipeline spills, contaminated surface water sediments, maintenance areas, landfills, and chemical storage areas; b) a description of ground water quality for all aquifers underlying the Molycorp Questa Mine including delineation of the extent of water contaminants in excess of ground water numerical standards; c) a description of ground water gradients, elevations, flow directions and hydraulic properties for all aquifers underlying the Molycorp Questa Mine; d) a definition of the capture zone caused by dewatering of the underground mine; e) an identification of all stream reaches within and adjacent to the Molycorp Questa Mine where ground water is discharging to the Red River; f) an identification of all historical and current ground water discharge locations (i.e. seeps and springs) including the potential for springs to discharge into the Capulin Canyon waste rock dumps; g) to the extent feasible, an identification of all geologic faults and fractures that impact the flow of ground water beneath and adjacent to the Molycorp Questa Mine; and h) maps depicting any seasonal variations in ground water gradients and elevations, flow directions, discharge volumes, and gaining/losing stretches of the river. Based on the information provided in this report, NMED may require inclusion of additional monitoring points and additional monitoring parameters.
19. Molycorp shall install additional monitoring wells during the 2000 field season in order to monitor ground water quality up and down gradient of the storm water collection system in the mill site area, and down gradient of the old tailings impoundment in the mill site area. Additional wells may be required to fulfill the requirements of Condition 17 and 18 above. Monitoring well locations and construction design shall be pre-approved by NMED. Monitoring wells shall be constructed in accordance with *NMED Ground Water Pollution Prevention Section Monitoring Well Construction and Abandonment Guidelines* (June 6, 2000) attached hereto as **Attachment 2**. Lithologic and construction logs and survey information shall be reported as required in Condition 15 above. Once installed, wells shall be monitored as required in Condition 2 above.

Mine Dewatering

20. Molycorp shall continue to maintain its mine dewatering system so that it maximizes capture of leachate from the mine workings and the open pit and ensures underground mine water, pit water, and contaminated ground water in fractured bedrock are collected in a manner that prevents, to the maximum extent practicable, any additional contamination of ground water and its subsequent impacts on surface water. Collected water must be disposed of in accordance with Discharge Plan 933.

Capulin Canyon Leachate Collection and Disposal System

21. Molycorp shall upgrade and maintain the Capulin Canyon leachate collection and disposal system in a manner that prevents the contamination of ground water and its subsequent impacts on surface water, as provided below. Within sixty (60) days after the date of the issuance of this Discharge Permit, Molycorp shall submit to NMED for approval a plan including an implementation schedule for upgrading the Capulin Canyon leachate collection and disposal system. Upon NMED approval, Molycorp shall implement the plan in accordance with the implementation schedule. The approved plan and schedule shall be incorporated herein by reference and deemed an enforceable part of this Discharge Permit. The leachate collection and disposal system shall be designed to contain the flow caused by a 100-year 24-hour storm event, or an alternative design approved by NMED. Each impoundment shall be sized to contain the maximum projected seepage flow while maintaining a minimum free board of 2 feet and shall be lined to conform to *NMED Ground Water Pollution Prevention Section Guidelines for Liner Material and Site Preparation for Synthetically-Lined Lagoons* (December 11, 1995) attached hereto as **Attachment 3**. The upgraded system shall ensure that leachate from the Capulin Canyon waste rock dump and contaminated water that exceeds the standards set forth in 20 NMAC 6.2.3103 from both the alluvial and fractured bedrock are captured and collected in a manner that prevents the contamination of ground and surface water. The plan shall also provide for the development of a new method for the disposal of the collected leachate. The new disposal method shall be other than the current practice of discharging leachate into Goathill Gulch and allowing it to percolate through the subsidence zone into the underground mine. NMED will not approve the current disposal method.

Storm Water Storage and Disposal

22. Molycorp shall upgrade and maintain its storm water treatment system so that storm water from the Molycorp Questa Mine is being stored and disposed of in a manner that prevents the contamination of ground water and its subsequent impacts on surface water, as provided below. Within sixty (60) days after the date of the issuance of this Discharge Permit, Molycorp shall submit to NMED for approval a plan including an implementation schedule for upgrading the storm water storage and disposal system. Upon NMED approval, Molycorp shall implement the plan in accordance with the implementation schedule. The approved plan and schedule shall be incorporated herein by reference and deemed an enforceable part of this Discharge Permit. The plan shall document the construction and capacity of each existing structural control and will propose upgrades such that storm water retention impoundments are designed to contain the flow caused by a 100-year 24-hour storm event, or an alternative design approved by NMED. Each impoundment shall be sized to contain the maximum projected flow while maintaining a minimum free board of 2 feet and shall be lined to conform to *NMED Guidelines for Liner Materials and Site Preparation for*

Synthetically-Lined Lagoons (Attachment 3), or an alternative design approved by NMED. The plan shall also provide for the development of a new method for the disposal of the collected storm water and shall be other than the current practice of allowing infiltration into the waste rock, alluvium, or fractured bedrock. NMED will not approve the current disposal method.

ABATEMENT PLAN

23. Molycorp shall abate pollution of surface water and ground water in accordance with the WQCC Regulations at 20 NMAC 6.2 Subpart IV and the standards set forth therein in order to abate ongoing contamination prior to and concurrent with the implementation of the closure plan. Specifically, in the event that ground water contaminated as a result of the Molycorp Questa Mine exceeds the standards set forth in 20 NMAC 6.2.4103.B or the NMED-approved background concentrations determined pursuant to Condition 24 below, Molycorp shall abate groundwater pollution to the standards set forth in 20 NMAC 6.2.4103.B or to NMED-approved background concentrations determined pursuant to Condition 24 below, whichever is greater. In the event that ground water contaminated as a result of the Molycorp Questa Mine is discharging to the Red River, Molycorp's contamination shall be abated so that its discharge will not cause the Standards for Interstate and Intrastate Surface Waters in 20 NMAC 6.1 to be violated. In the event that mine-related stream deposits are found to be a source of surface-water pollution, the surface-water pollution shall be abated to conform to the Standards for Interstate and Intrastate Surface Waters in 20 NMAC 6.1. However, nothing herein shall in any way affect Molycorp's obligation to comply with the total maximum daily load (TMDL) requirements under section 303(d) of the federal Clean Water Act, 33 U.S.C. § 1313(d).

Background Study

24. Molycorp shall fund a background study to be performed by the United States Geological Survey (USGS) to determine background concentrations of water contaminants in ground water. A six (6)-person review committee composed of two technical representatives of NMED, two technical representatives of Molycorp and two technical representatives of Amigos Bravos shall be established within thirty (30) days after the date of the issuance of this Discharge Permit. The committee will review and provide written comments on all draft work plans and draft reports prepared by the background study contractor. Any member of the committee may provide individual comments. USGS shall be instructed to respond to all comments. Any dispute among the committee will be resolved by the Secretary of NMED. Ex parte communications, in any way regarding the background study, between USGS and NMED, or Molycorp, or Amigos Bravos, or their representatives or agents, shall be prohibited. The background study shall be completed according to a schedule to be agreed upon by the parties. NMED will evaluate the background study and other available information and will determine the background concentrations of specific

constituents. Upon NMED's determination, this Discharge Permit will be modified to incorporate the background determination. The procedures of 20 NMAC 6.2 Subpart III shall apply to such modification.

Abatement Plan

25. In accordance with 20 NMAC 6.2.1203.A.9 or 3109.E and 6.2 Subpart IV, Molycorp shall within sixty (60) days of receipt of written notice from NMED that an abatement plan is required, submit an abatement plan proposal to NMED for approval. Abatement shall be implemented in accordance with 20 NMAC 6.2 Subpart IV, as summarized below.

- a. Stage 1. Within sixty (60) days of receipt of written notice from NMED that an abatement plan is required, Molycorp shall submit a stage 1 abatement plan to NMED for approval. The stage 1 abatement plan shall be prepared in accordance with 20 NMAC 6.2.4106.C and may incorporate results of studies required in Conditions 17-19. The stage 1 abatement plan shall include at a minimum the following information:
 - i. a description of the Molycorp Questa Mine site in accordance with 20 NMAC 6.2.4106.C.1;
 - ii. a site investigation workplan in accordance with 20 NMAC 6.2.4106.C.2;
 - iii. a monitoring program in accordance with 20 NMAC 6.2.4106.C.3;
 - iv. a quality assurance plan in accordance with 20 NMAC 6.2.4106.C.4;
 - v. a site health and safety plan in accordance with 20 NMAC 6.2.4106.C.5;
 - vi. a schedule for all stage 1 abatement plan activities in accordance with 20 NMAC 6.2.4106.C.6; and
 - vii. any additional information that NMED may require in accordance with 20 NMAC 6.2.4106.C.7.
- b. Upon NMED approval, Molycorp shall implement the stage 1 abatement plan. The approved stage 1 abatement plan shall be incorporated herein by reference and deemed an enforceable part of this Discharge Permit. According to the schedule set forth in the approved stage 1 abatement plan, Molycorp shall submit a detailed site investigation report to NMED for approval.

- c. Stage 2. Within sixty (60) days after the date that NMED approves the site investigation report, if NMED determines that it is necessary, Molycorp shall submit a stage 2 abatement plan to NMED for approval. The stage 2 abatement plan shall be prepared in accordance with 20 NMAC 6.2.4106.E, and shall include at a minimum the following information:
- i. a brief description of the current situation at the mine in accordance with 20 NMAC 6.2.4106.E.1;
 - ii. a development and assessment of abatement options in accordance with 20 NMAC 6.2.4106.E.2;
 - iii. a description, justification and design, if necessary, of the preferred abatement option in accordance with 20 NMAC 6.2.4106.E.3;
 - iv. any necessary modification of the approved monitoring program in accordance with 20 NMAC 6.2.4106.E.4;
 - v. a description of any necessary maintenance activities in accordance with 20 NMAC 6.2.4106.E.5;
 - vi. a schedule for the abatement activities in accordance with 20 NMAC 6.2.4106.E.6;
 - vii. a public notification proposal in accordance with 20 NMAC 6.2.4106.E.7, 6.2.4108B, and 6.2.4108.C; and
 - viii. any additional information that NMED may require in accordance with 20 NMAC 6.2.4106.E.8.
- d. Upon NMED approval, Molycorp shall implement the stage 2 abatement plan. The approved stage 2 abatement plan shall be incorporated herein by reference and deemed an enforceable part of this Discharge Permit.

CONTINGENCY PLAN

26. In accordance with 20 NMAC 6.2.1203, Molycorp shall report and remedy any discharge not approved in this Discharge Permit. This requirement includes, but is not limited to, immediate corrective action to contain and remove or mitigate the condition, oral notification of NMED within 24 hours after discovery of the condition, written notification of NMED within one week after

discovery of the condition, submittal of a corrective action report within fifteen (15) days after discovery of the condition, and submittal of an abatement plan in accordance with Condition 25 above and 20 NMAC 6.2 Subpart IV.

27. If Molycorp discovers a significant increase in the extent or magnitude of ground or surface water contamination, or a significant increase in discharge volume from any seep or existing discharge point, Molycorp shall notify NMED within five (5) days of discovery of the increase. If NMED discovers such an increase, it will notify Molycorp. Within sixty (60) days of discovery or receipt of notification, whichever is earlier, Molycorp shall submit to NMED for approval an abatement plan including an implementation schedule to address source control and abatement of the contamination, as appropriate, in accordance with Condition 25 above and 20 NMAC 6.2 Subpart IV. After the stage 1 investigation, NMED will determine whether stage 2 abatement is necessary to attain the abatement standards and requirements set forth in 20 NMAC 6.2.4101 and 4103. Upon NMED approval, Molycorp shall implement the abatement plan in accordance with the implementation schedule. The approved abatement plan and schedule shall be incorporated herein by reference and deemed an enforceable part of this Discharge Permit.
28. As part of the revised closure plan submittal, Molycorp shall submit to NMED for approval a revised contingency plan to address failure of any component of the revised closure plan including but not limited to failure of collection, containment or treatment systems, failure of covers or revegetation, failure of surface run-on and run-off controls, or failures in slope stability, that may result in an exceedance of water quality standards or otherwise threaten public health or the environment.
29. If NMED or Molycorp identify any other failures of the discharge plan or system not specifically noted above, NMED may request Molycorp to develop for NMED approval contingency plans and schedules to cope with the failures.

CLOSURE PLAN

Preliminary Closure Plan

30. The preliminary closure plan for the Molycorp Questa Mine shall remain in effect until the revised closure plan is approved by NMED. Molycorp shall immediately begin implementation of the preliminary closure plan if the permitted facility closes for any reason, including bankruptcy or abandonment, prior to approval of the revised closure plan. The preliminary closure plan was used to calculate closure costs for the interim financial assurance instrument, as set forth in NMED's "Molycorp Questa Mine Closure Cost Estimate Cost Summary" attached as **Attachment 4**. The components of the preliminary closure plan are as follows:

- a. Regrading of all waste rock dumps to slopes of no steeper than 3:1 (horizontal:vertical), unless underlying slopes exceed 3:1. In the event underlying slopes exceed 3:1, waste rock may instead be regraded to slopes of no steeper than 2:1, to the maximum extent practicable. Regrading shall include the construction of surface water diversion ditches every 100 to 200 vertical feet on the waste rock dump faces. Relocation in combination with regrading may be necessary to meet slope requirements. Regrading and any relocation shall include run-on control and positive drainage of all waste rock.
- b. Covering all waste rock dumps that NMED determines to have the potential to generate acidic leachate with a minimum of 3 feet of non-acid generating growth medium, to the maximum extent practicable. Cover material will be amended with lime as necessary to serve as a neutralizing agent.
- c. Revegetation of all covered waste rock to ensure long-term stability of the cover and to reduce infiltration to the maximum extent practicable.
- d. Continued maintenance of the mine dewatering system so that it maximizes capture of leachate from the mine workings and the open pit and ensures underground mine water, pit water, and contaminated ground water in fractured bedrock are collected in a manner that prevents, to the maximum extent practicable, any additional contamination of ground water and its subsequent impacts on surface water.
- e. Collection, treatment, and disposal of waste rock leachate, impacted ground water, water pumped from the underground mine, and collected storm water, if such leachate or water exceeds the standards set forth in 20 NMAC 6.2.3103 or the NMED-approved background concentrations determined pursuant to Condition 24 above, whichever is greater, or contains a toxic pollutant as defined in 20 NMAC 6.2.1101. Such collection system shall include without limitation seepage capture systems constructed at the toe of the Sulphur Gulch, Middle, Sugar Shack South, Sugar Shack West, Goathill, and Capulin Canyon (if not yet constructed as required by Condition 21) waste rock dumps.
- f. Construction and maintenance of a water treatment plant for the long-term treatment of water. The water treatment plant shall have an operating capacity of no less than 394 gallons per minute. Water treatment shall be by lime neutralization and shall be discharged in accordance with law including all applicable state and federal permits. By-product treatment sludge shall be stored on-site in lined impoundments constructed to the specifications described in Condition 21 above and shall be closed on site in the lined impoundments.

- g. After implementation of the closure plan is complete, dewatering, collection, treatment, and disposal of leachate and water shall continue until all ground water standards and/or NMED-approved background concentrations for ground water are achieved and maintained at all monitoring locations or places of withdrawal for two (2) years.
- h. Post-closure monitoring of leachate, ground water, and surface water shall continue for a minimum of thirty (30) years after all ground water standards and/or NMED-approved background concentrations, whichever is greater, have been achieved and maintained for two (2) years. If any ground water standard and/or approved background concentration, whichever is greater, is exceeded during the post-closure monitoring period, dewatering, collection, and treatment shall resume in accordance with Condition 30 d, e, f, and g above, and post-closure monitoring shall resume for a minimum of thirty (30) years thereafter. Molycorp may request a reduction in monitoring frequency, location, and analytical parameters for NMED approval after two years of quarterly monitoring.

Revised Closure Plan

- 31. Molycorp shall submit to NMED for approval a revised closure plan including an implementation schedule by January 31, 2001 that is based on existing information and information available from the 2000 field season. The revised closure plan shall include a revised contingency plan in accordance with Condition 28 above. The revised closure plan shall be accompanied by a request for modification of this Discharge Permit to incorporate the plan into DP-1055. The procedures of 20 NMAC 6.2 Subpart III shall apply to such request.
- 32. Molycorp shall conduct an analysis of closure alternatives for each waste unit to be closed, and submit such analysis to NMED for approval in support of the revised closure plan. A work plan including an implementation schedule for the analysis of alternatives has been included in the draft *Work Plan for Mine Rock and Site Investigation and Testing Program, Questa Mine Site, New Mexico* (SRK, April 2000) which has been submitted to NMED for approval. Evaluation shall include a range of options for each alternative, for example partial to full waste rock regrading. Alternatives to be evaluated shall include, but not be limited to: a) waste rock relocation, regrading, cover placement, and revegetation; b) stormwater collection; c) leachate collection; d) contaminated ground water collection; e) subsidence zone reclamation; f) open pit reclamation; g) water treatment; h) any other alternative which is proposed as a result of ongoing investigations; and i) appropriate combinations of the foregoing. Results of the analysis of alternatives shall be described in detail and summarized in a matrix format. Alternatives shall be evaluated based on the following criteria, at a minimum: a) percentage reduction in infiltration, concentration, volume, and mobility of water contaminants; b) effectiveness in attaining ground water and surface water quality standards; c) technical feasibility; d) stability and durability; and e) cost considerations including

implementation of remedy, long-term maintenance and monitoring, and long-term financial assurance requirements.

Financial Assurance

33. Within thirty (30) days after the date of issuance of this Discharge Permit, Molycorp shall submit an executed copy of its proposed interim financial assurance instrument(s) in the amount of \$129,000,000 for the cost of a third party to implement the preliminary closure plan as defined in Condition 30. The instrument shall provide that if at any time after closure, Molycorp is unable, unwilling, or otherwise fails to properly operate and maintain its water treatment and seepage capture system, then \$36,000,000 shall be placed in a trust fund to provide sufficient funding for long-term water treatment including treatment plant and seepage capture system construction, operation and maintenance, chemical additives, and monitoring. The proposed financial assurance instrument(s) must be worded as in the form attached hereto as **Attachment 5**, and must incorporate the provisions of Condition 35 below.
34. Within thirty (30) days of NMED approval of a revised closure plan, or upon a determination that the existing financial assurance is inadequate, Molycorp shall propose a revised closure cost estimate and financial assurance instrument(s) which incorporates the provisions of Condition 35 below. As required by Condition 33 above, the revised cost estimate and financial assurance instrument(s) must include an amount and provide for a proposed trust fund to cover the costs of long-term water treatment including treatment plant and seepage capture system operation and maintenance, chemical additives, and monitoring. Within thirty (30) days of NMED approval of the revised financial assurance instrument(s), Molycorp shall implement the financial assurance.
35. General Financial Assurance Requirements are as follows:
 - a. The financial assurance shall be executed in an amount equal to the approved closure cost estimate. The closure cost estimate must include direct costs associated with third party implementation of the closure plan, contingency costs in the amount of 15 percent of the direct costs, and NMED oversight and administration costs, including indirect costs. NMED's indirect cost rate is set by NMED at a fixed rate each fiscal year, and will be provided to Molycorp.
 - b. Except as provided below, NMED must be named as the sole beneficiary in the financial assurance instrument(s). Molycorp may select a joint financial assurance instrument(s) to meet the requirements of both NMED and the New Mexico Energy, Minerals and Natural Resources Department (EMNRD). If a joint instrument(s) is selected, both NMED and EMNRD must be named as sole beneficiaries and the joint instrument(s) must meet the requirements of both

agencies.

- c. Within thirty (30) days of implementation of the financial assurance instrument(s), Molycorp shall establish a Standby Trust, which names NMED (or NMED and EMNRD for joint financial assurance) as the beneficiary. The Standby Trust Agreement shall be worded as in the form provided by NMED. The Standby Trust shall be maintained until the financial assurance is released. All amounts forfeited under this Discharge Permit shall be deposited directly into the Standby Trust.
- d. The financial assurance instrument(s) shall remain in effect throughout the term of this Discharge Permit until released by NMED. The financial assurance shall remain in place during lapses in Discharge Permit coverage, including late Discharge Permit renewal or temporary shutdown of facilities covered under the Discharge Permit.
- e. The financial assurance must include a method for adjustments due to inflation, new technologies, or NMED approved revisions to the closure plan based on continued investigations.
- f. No more than once every twelve months Molycorp may request that NMED review remaining closure measures. The request for closure review shall describe the closure measures completed and shall contain a cost estimate for remaining closure measures. If NMED approves the description of completed closure measures and the cost estimate for remaining closure measures, NMED will adjust the amount of financial assurance to reflect the revised cost estimate.
- g. The financial assurance shall be evaluated, compared, and if necessary, revised to comply with WQCC financial assurance regulations, if and when such regulations are promulgated and become effective, and from time to time as the regulations allow.
- h. The financial assurance shall include a provision which requires the financial assurance provider to provide at least 120 days written notice to NMED and Molycorp prior to cancellation or non-renewal of the financial assurance. Molycorp must obtain an NMED-approved alternate financial assurance mechanism within sixty (60) days of such notice. If Molycorp fails to obtain alternate financial assurance within sixty (60) days, the current financial assurance shall become immediately payable to the Standby Trust, which names NMED (or NMED and EMNRD jointly) as beneficiary.
- i. If NMED determines that implementation of the preliminary closure plan under Condition 30, or of the final closure plan under a revised permit, is required and that Molycorp is unable or

unwilling or will otherwise fail to conduct or complete the closure requirements of this Discharge Permit, then NMED may proceed with forfeiture of all or part of the financial assurance. Prior to beginning a forfeiture proceeding, NMED will provide written notice, by certified mail return receipt requested, to Molycorp and to the surety informing them of the determination to forfeit all or a portion of the financial assurance. The written notice will state the reasons for the forfeiture and the amount to be forfeited. The amount shall be based on the total cost of performing closure, including post-closure monitoring and maintenance, in accordance with this Discharge Permit and applicable State law and regulations. NMED will also advise Molycorp and the surety of the conditions under which forfeiture may be avoided. Such conditions may include, without limitation, an agreement by Molycorp, by a surety, or by another person, to perform closure, including post-closure monitoring and maintenance, in accordance with this Discharge Permit and applicable State law and regulations, and a demonstration that such person has the financial ability and technical qualifications to do so. All financial assurance forfeited shall become immediately payable to the Standby Trust, which names NMED (or NMED and EMNRD jointly) as beneficiary. Forfeited funds shall be used to complete performance of closure. If the forfeited amount is insufficient, Molycorp shall be liable for the remaining costs. If the amount forfeited is more than necessary, the excess amount shall be refunded to the person from whom it was collected.

- j. The financial assurance shall be released or modified when NMED determines that closure measures covered by the financial assurance have been completed according to the closure plan requirements of this Discharge Permit.

GENERAL TERMS AND CONDITIONS

Record Keeping

36. Molycorp shall maintain at its facility a written record of all data and information on monitoring of groundwater, surface water, wastewater, borehole gas, and meteorological conditions conducted pursuant to this Discharge Permit, including the following:
 - a. The date, exact time, and exact location of each sample collection or field measurement;
 - b. The name and job title of the person who performed each sample collection or field measurement;
 - c. The date of the analysis of each sample;
 - d. The name and address of the laboratory and the name and job title of the person that performed

- the analysis of each sample;
- e. The analytical technique or method used to analyze each sample or take each field measurement;
 - f. The results of each analysis or field measurement, including the raw data; and
 - g. A description of the quality assurance and quality control procedures used.
37. Such data and information shall also be maintained on all split and duplicate samples, spike and blank samples, and repeat samples.
38. Molycorp shall maintain a written record of any spills, seeps, or leaks of leachate, effluent, or process fluids not authorized by this Discharge Permit.
39. Molycorp shall maintain a written record of the operation, maintenance, and repair of all facilities and equipment used to treat, store, or dispose of wastewater; to measure flow rates, to monitor water quality, or to collect other data required by this Discharge Permit. This record shall include repair, replacement, or calibration of any monitoring equipment and repair or replacement of equipment used in Molycorp's waste or wastewater treatment and disposal system.
40. Notwithstanding any company record retention policy to the contrary, until such time as NMED determines that all closure measures have been completed in accordance with the requirements of this Discharge Permit, Molycorp shall retain copies of all data, records, reports, and other documents generated pursuant to this Discharge Permit, including those listed in Conditions 36 through 39 above. Such record retention period may be increased by NMED at any time upon written notice to Molycorp.
41. All such data, records, reports, and other documents, including those listed in Conditions 36 through 39 above, shall be provided to NMED upon request.

Inspection and Entry

42. In accordance with the WQA, § 74-6-9.B and E, and the WQCC Regulations at 20 NMAC 6.2.3107.D, Molycorp shall allow any authorized representative of NMED, upon the presentation of credentials, to enter any property or premises owned or controlled by Molycorp during regular business hours or at other reasonable times for the following purposes:

- a. To inspect and copy any data, records, reports, or other documents generated pursuant to this Discharge Permit or pursuant to State or federal water quality regulations, including those listed in Conditions 36 through 39 above.
 - b. To inspect any equipment, device, monitoring system, well, collection system, pipeline or other conveyance system, treatment works, or other system or facility required by this Discharge Permit or by State or federal water quality regulations.
 - c. To sample or monitor any leachate, water contaminant, effluent, or receiving groundwater or surface water at any location before, after, or during discharge.
 - d. To sample or monitor any well or other collection system.
43. Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation.

Duty to Provide Information

44. In accordance with the WQA, §§ 74-6-5.I(4) and 74-6-9.B and the WQCC Regulations at 20 NMAC 6.2.3107.D, within a reasonable time after a request from NMED, which time may be specified by NMED, Molycorp shall provide NMED with any relevant information to determine whether cause exists for modifying, terminating, or renewing this Discharge Permit, or to determine whether Molycorp is in compliance with this Discharge Permit.
45. Nothing in this Discharge Permit shall be construed as limiting in any way the information gathering authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation.

Unauthorized Discharges

46. This Discharge Permit authorizes only those discharges specified herein. Any discharge into groundwater not authorized by this Discharge Permit or by Discharge Permit DP-933 is a violation of the WQCC Regulations at 20 NMAC 6.2.3104. Molycorp must report any such discharge to NMED, and it must take corrective action to contain and remove or mitigate the damage caused by the discharge, as required by 20 NMAC 6.2.1203.

Modifications

47. Pursuant to 20 NMAC 6.2.3107.C, Molycorp shall notify NMED of any changes to its wastewater collection or disposal system, including any changes in the wastewater flow rate or the volume of wastewater storage, or of any other changes to its mining operations or processes that would result in any significant change in the discharge of water contaminants. Molycorp shall obtain NMED approval, as a modification to this Discharge Permit pursuant to 20 NMAC 6.2.3109.E, F, or G, prior to any increase in the quantity of leachate discharged, or any increase in the concentration of water contaminants discharged, above those levels approved in this Discharge Permit.

Transfer

48. Pursuant to 20 NMAC 6.2.3111, prior to the transfer of any ownership, control, or possession of the Molycorp Questa Mine or any portion thereof, Molycorp shall notify the proposed transferee in writing of the existence of this Discharge Permit and include a copy of this Permit with the notice. Molycorp shall deliver or send by certified mail to NMED a copy of the notification and proof that such notification has been received by the proposed transferee.

Enforcement

49. Any violation of the requirements and conditions of this Discharge Permit, including any failure or refusal to allow NMED to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject Molycorp to an enforcement action. Pursuant to the WQA § 74-6-10.A and B, such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, suspending or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to the WQA §§ 74-6-10.C and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA § 74-6-5, the WQCC regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. For certain violations specified in the WQA § 74-6-10.2, criminal penalties may also apply.

In any action to enforce this Discharge Permit, Molycorp waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. Molycorp does not waive any argument as to the weight such evidence should be given.

Compliance with Other Law

50. Nothing in this Discharge Permit shall be construed in any way as relieving Molycorp of its obligation to comply with all applicable federal, State, and local laws, regulations, permits, or

orders. Molycorp does not waive any rights under such applicable federal, State, and local laws, regulations, permits, or orders except as expressly provided in this Discharge Permit.

Right to Appeal

51. Pursuant to the WQA § 74-6-5.N, Molycorp may file a petition for a hearing before the WQCC on this Discharge Permit. Such petition must be made in writing to the WQCC within thirty (30) days after Molycorp receives this final Discharge Permit. Unless a timely petition for a hearing is made, the decision of NMED shall be final.

Term

52. Pursuant to the WQA § 74-6-5.H, and 20 NMAC 6.2.3109.H, the term of this Discharge Permit is five (5) years, and the Permit will automatically terminate five (5) years from the date it is issued. To renew this Permit, Molycorp must submit an application for renewal at least 180 days before the termination date.

ISSUED this _____ day of _____, 2000.

PETER MAGGIORE
Secretary
New Mexico Environment Department